CLASSIFICATION OF THE FOSSORIAL, PREDACEOUS AND PARASITIC WASPS, OR THE SUPERFAMILY VESPOIDEA.

BY WILLIAM H. ASHMEAD, A. M., ASSISTANT CURATOR, DIVISION OF INSECTS, U. S. NATIONAL MUSEUM.

(Paper No. 14.—Continued from Vol. XXXV., p. 107.)

Subfamily II.—Methocinæ.

1894. Myrmosini, Tribe II. (partim), Fox; Proc. Acad, Sci., Phila., p. 273.

1896. Myrmosini, Tribe II. (partim), Ashmead; Trans. Am. Ent. Soc., XXII., p. 179, 180.

1899. Methocinæ, Tribu 3e (partim) André; Spec. Hym. d'Eur Tom. 8, p. 58 and 71.

1903. Methocinæ, subfamille (partim), André; Wytsman's Gen. Ins. Fam. Mutillidæ, p. 6.

Mr. Ernest André's conception of this subfamily is erroneous; he has placed in it a number of genera that do not belong to the family *Thynnidæ* at all, but are genuine Myrmosids, and represent my tribe *Chyphotini*. Moreover, André has incorrectly classified all of these genera in the family *Mutillidæ*, an error Fox and myself also fell into years ago, before we had studied the *Thynnidæ*.

Mr. Frederick Smith, of the British Museum, was apparently the first to point out that *Methoca* belonged to the *Thynnidæ*, although he still retained it among the *Mutillidæ*. Dr. David Sharp, in Cambridge Natural History, Vol. 5, p. 96, has also correctly placed *Methoca* with the Thynnides and gives a good figure of both sexes of *M. ichneumonides*, Latr.

Table of Genera.

Females ..... 1.

Males ..... 2.

1. Scutellum not differentiated, entirely absent; prothorax and mesothorax finely transversely aciculated; head large, much wider than the thorax, finely sculptured, opaque; eyes large, finely pubescent;

clypeus rounded anteriorly; mandibles large, curved, edentate; maxillary palpi 5-jointed, the lateral palpi 4-jointed (Africa).....Andréus, Ashm.* gen. nov.
(Type A. Abbottii, Ashm.†)

Scutellum differentiated, represented by a convex elevation; thorax and head smooth, shining; eyes bare or nearly; maxillary palpi 6-jointed, the labial palpi 4-jointed.....Methoca, Latreille.
(Type M. ichneumonides, Latr.)

2. Front wings with the first transverse cubitus wanting, the first and second cubital cells confluent.

Clypeus anteriorly produced into a triangular tooth; abdomen long, cylindrical, the hypopygium ending in a single upward-curved aculeus.....Methoca, Latreille.

SUBFAMILY III.—Rhagigasterinæ.

This subfamily ought to be easily distinguished by the characters employed in my table of subfamilies. The genus *Lophocheilus*, Guérin, I know only from the description and figure, and its position is uncertain, although I am inclined to think that it belongs here, and may ultimately prove to be the opposite sex of *Eirone*, Westwood.

Table of Genera.

Females.....1.
Males.....5.

1. Head *without* a sulcus or grooved line on temples behind the eyes (Tribe II., Diammini).....2.
Head quadrate, *with* a sulcus or grooved line on temples behind the eyes (Tribe I., Rhagigasterini).

Claws simple; grooved lines on temples, curved and not quite extending to the eyes; maxillary palpi 6-jointed, labials 4-jointed; first ventral segment simple (North America).....Glyptometopa, Ashmead.
(Type G. Americana, Ashm.)

*Named in honor of Mr. Ernest André

†Andréus Abbottii, sp. n.—Female: Length, 7 mm. Black; antennæ, except the last five or six joints, the mandibles, the palpi and the legs, ferruginous; anterior margin of the clypeus narrowly yellowish-white; abdomen black, polished, shining, the last two segments flavo-testaceous.

Type.—Cat. No. 6812, U. S. N. M.

Hab.—Congo, Africa (Dr. W. L. Abbott).

Claws cleft; grooved line on the temples straight and extending from the eyes to the occiput; maxillary palpi 6-jointed, labials stout, 4-jointed; first ventral segment with a tooth beneath (Australia).... ....Rhagigaster, Guérin.
(Type R. unicolor, Guér., ♂.
= Diamma ephippiger, Guér., ♀.)

2. Claws cleft. .....3.
Claws simple.....4.

3. Head subquadrate, not or scarcely longer than wide; eyes very large; ocelli present; mandibles 3- or 4-dentate; maxillary palpi 6-jointed, labials 4-jointed (Australia).....Diamma, Westwood, 1835.
=Trachypterus, Guér., 1839.
(Type D. bicolor, Westw.)

Head oblong, more than twice longer than wide; eyes minute; ocelli wanting; mandibles at apex bidentate; maxillary and labial palpi both 4-jointed (Australia)..... .....Eirone, Westwood.
(Type E. dispar, Westw.)

4. Head large, oblong, longer than wide; eyes minute; maxillary and labial palpi both 4-jointed (South America).....Aelurus, Klug.
(Type A. nasutus, Klug.)

Head large, subquadrate, a little wider than long, and much wider than the thorax; prothorax ovate; mandibles (?) simple; maxillary palpi 6-jointed (Australia).....Ariphron, Erichson.
(Type A. bicolor, Erich.)

5. Mandibles tridentate.....6.
Mandibles bidentate..... ..... 9.

6 First transverse cubitus *without* an appendage, the first cubital cell undivided .....7.
First transverse cubitus *with* an appendage or spurious nervure, which divides the first cubital cell into two more or less distinct cells....8.

7. Second cubital cell receiving both recurrent nervures; maxillary palpi 6-jointed, labials 4-jointed.....Diamma, Westwood.
Second cubital cell receiving only one recurrent nervure—the first, the second recurrent nervure being interstitial, or nearly, with the second transverse cubitus (Australia)..... ..Oncorhinus, Shuckard.
(Type O. xanthospilus, Shuck.)

8. Third cubital cell *larger* than the second, the second and third each receiving a recurrent nervure; clypeus not prominent, with a slight triangular emargination or impression anteriorly; apical tooth of mandible much longer than the two inner teeth; maxillary palpi 6-jointed, labials 4-jointed (South America).. Telephoromyia, Guerin. (Type T. rufipes, Guer.)

Third cubital cell *shorter* than the second; clypeus not produced, excised anteriorly; maxillary palpi 6-jointed, joints 1–3 short, 4–6 very long; labial palpi 4-jointed..... Aelurus, Klug.

9. Clypeus somewhat produced, the anterior margin subarcuately emarginated, the labrum more or less exposed, ciliated; maxillary palpi 6-jointed, first joint of flagellum shorter than the second (Australia)..... Lophocheilus, Guérin. (Type L. villosus, Guér.)

THE LARVA AND PUPA OF THE APPLE BUD-BORER (*Steganoptycha pyricolana*, Murt.).

BY E. DWIGHT SANDERSON, AGRICULTURAL COLLEGE, TEXAS.

In studying the larva and pupa of *Steganoptycha pyricolana*, Murt., some observations were made as to structure, which it seems desirable to permanently record. The life-history and habits of the species have been described in the Twelfth Report of the Delaware Agricultural Experiment Station.

"This species was described by Miss M. E. Murtfeldt, in Bulletin No. 23, o. s., Div. Ent., U. S. Dept. Agr., p. 52, as *S. pyricolana*, Riley MS. Concerning the identity, it was stated that 'Professor Fernald, to whom a specimen was shown, considers it identical with Clemens's *S. salicicolana*, which, I believe, breeds in willow galls, but Dr. Riley pronounces it distinct, and he has types of Clemens's species.' My specimens agree entirely with Miss Murtfeldt's description, but are distinctly different from Clemens's types in the collection of the Am. Ent. Society. Correspondence shows that the opinion credited above to Dr. Fernald is incorrect, as he never compared the specimens. Dr. Fernald, to whom specimens were referred, has kindly given the identity of the species considerable attention, and writes me that he has frequently received speci-